

[0089] An integrated circuit has a metal layer that includes conductors to provide interconnectivity for components of the integrated circuit chip. The metal layer is divided into at least two sections, such that a first section has a preferred direction and the second section has a preferred wiring direction that is different from the first preferred direction. The first and second preferred directions on a single metal layer may consist of any direction. The metal layer may be divided into more than two sections, wherein each section has a preferred wiring direction. Wiring geometries for multi-level metal layers are also disclosed

Figures

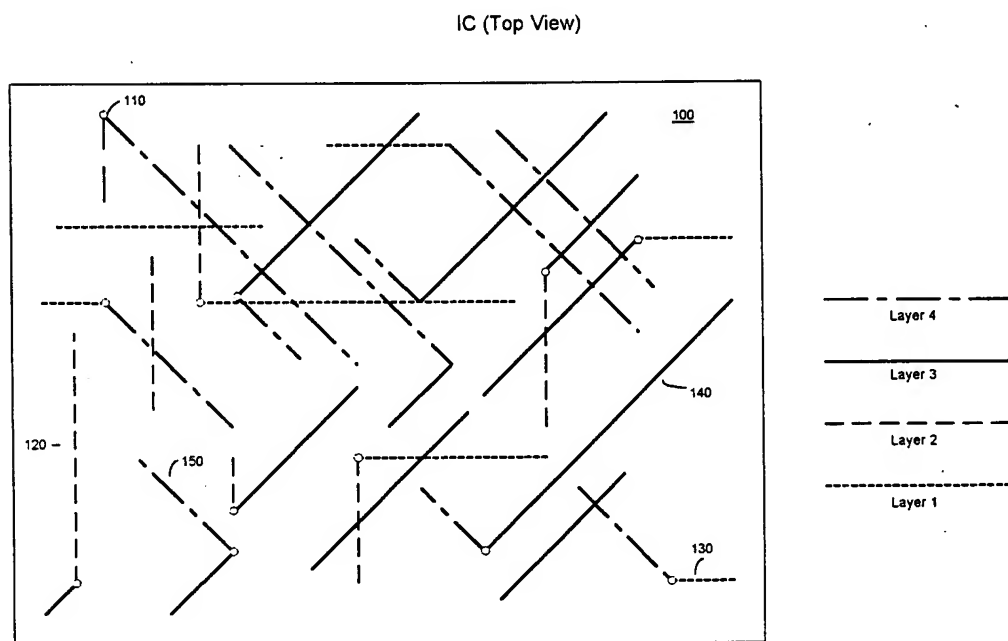


Figure 1a

IC (Top View)

155

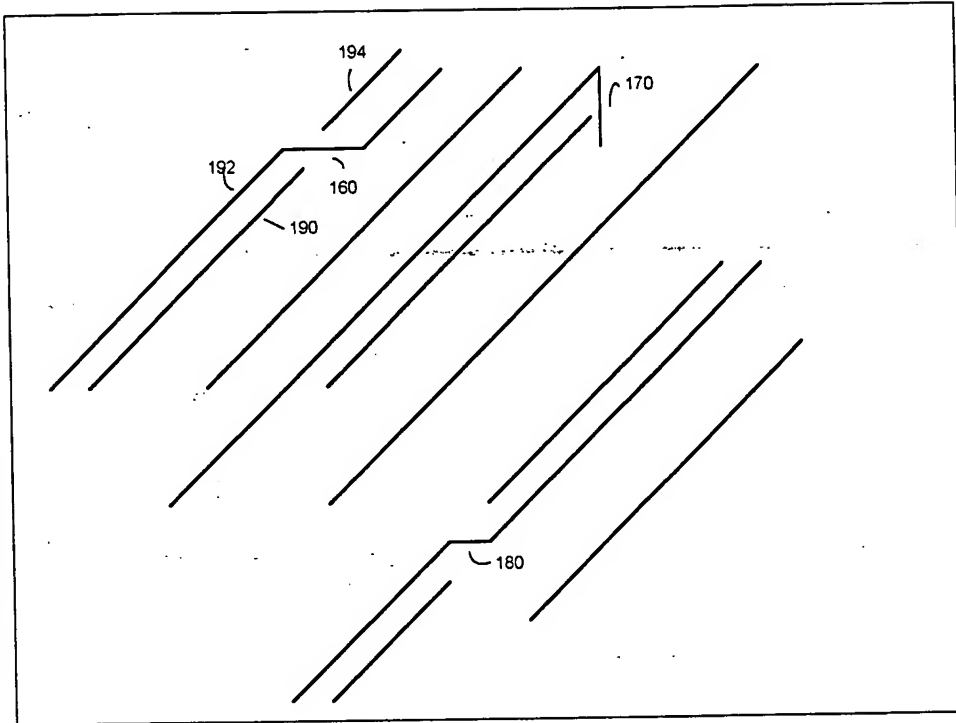
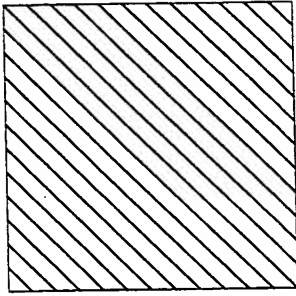


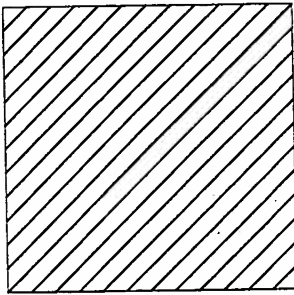
Figure 1b

20110101 00000000



Layer "n+1"

Octalinear (-45 Deg.)

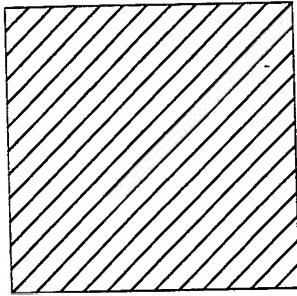


Layer "n"

Octalinear (+45 Deg.)

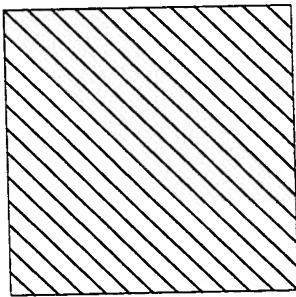
Figure 2a

201110" E58E4001
10043853 011103



Layer "n+1"

Octalinear (+45 Deg.)

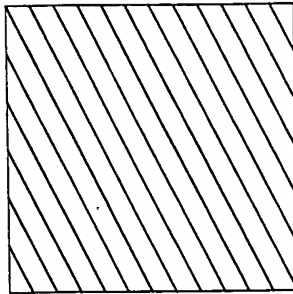


Layer n

Octalinear (-45 Deg.)

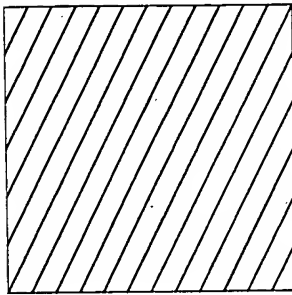
Figure 2b

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Layer "n+1"

(-60 Degrees)

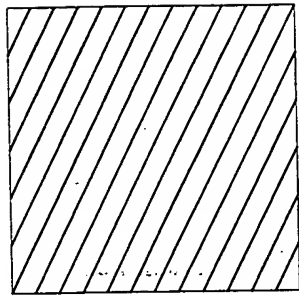


Layer "n"

(+60 Degrees)

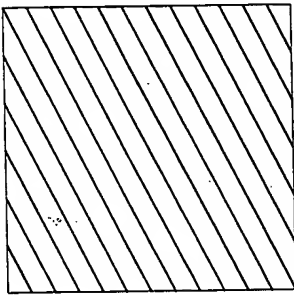
Figure 3a

20250101 100433.0110



Layer "n+1"

(+60 Degrees)



Layer "n"

(-60 Degrees)

Figure 3b

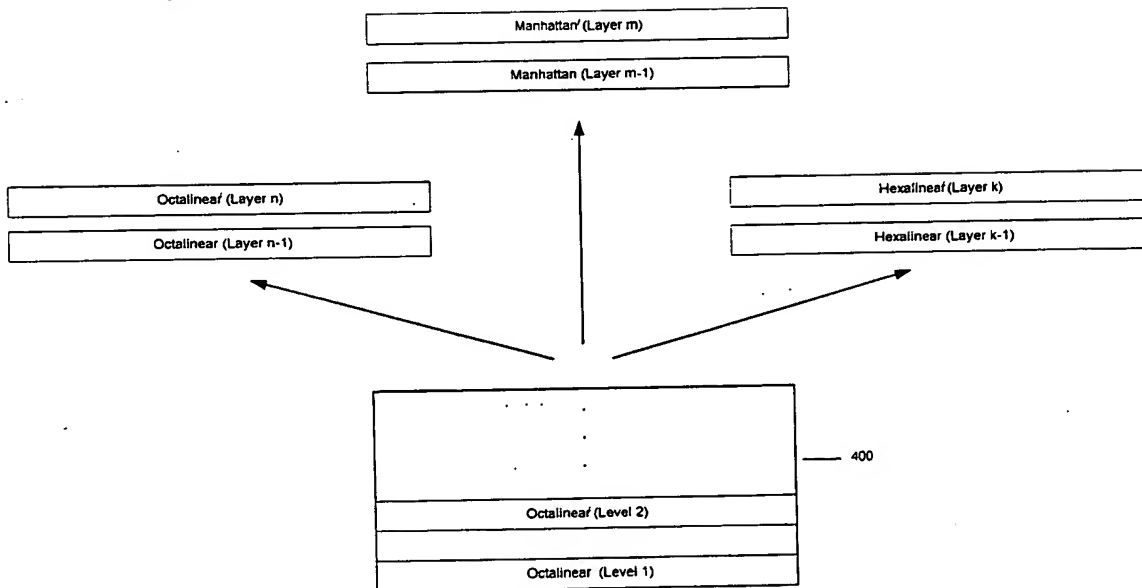


Figure 4a

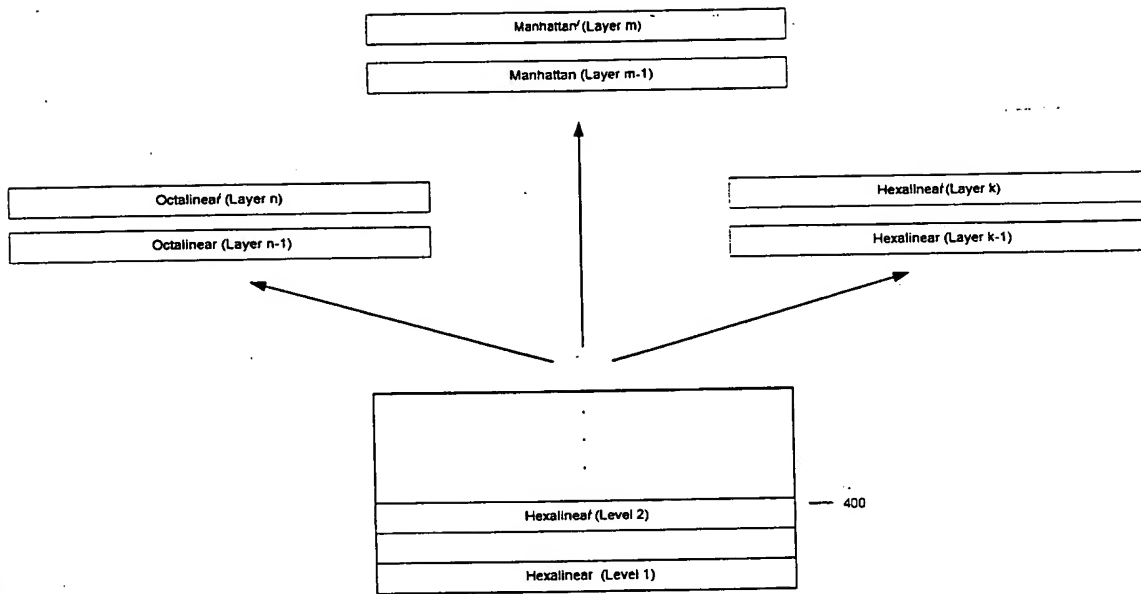


Figure 4b

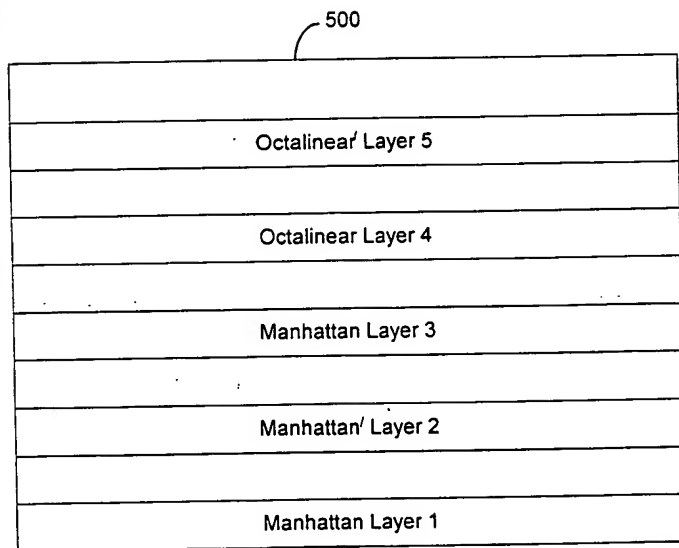


Figure 5a

20250401 10:43:53

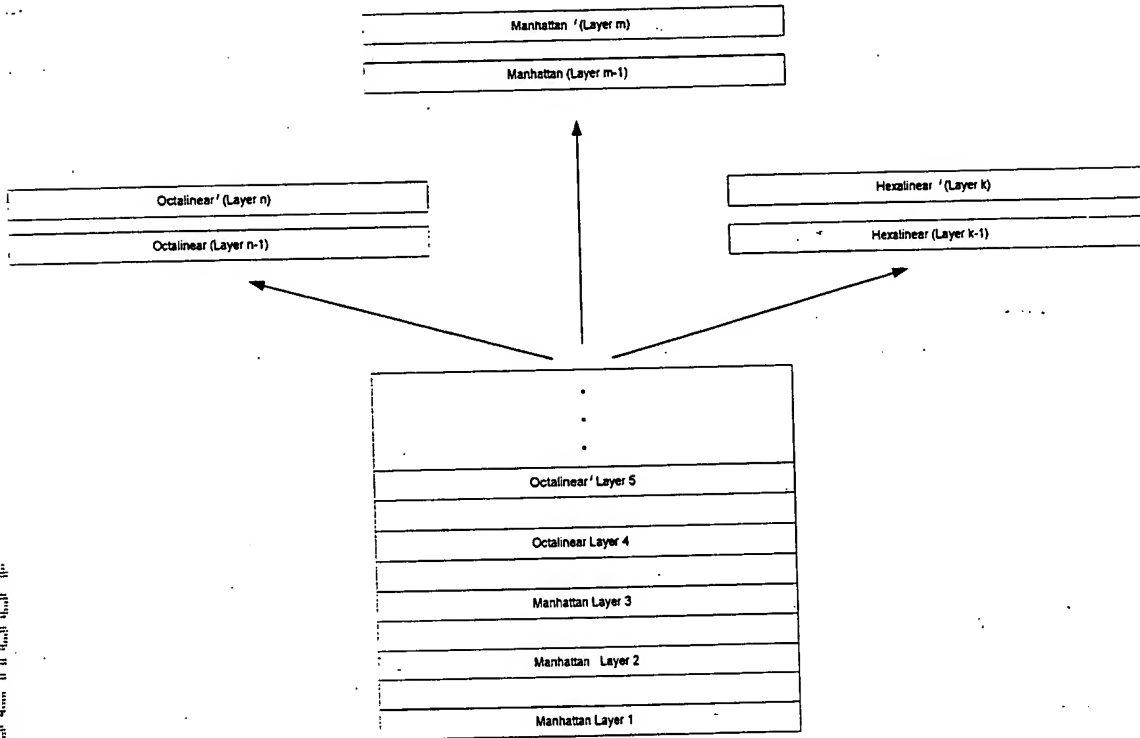
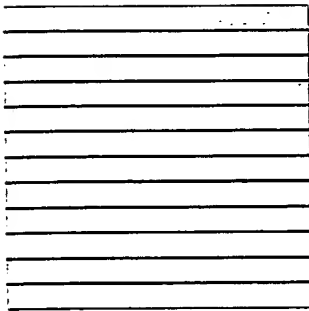
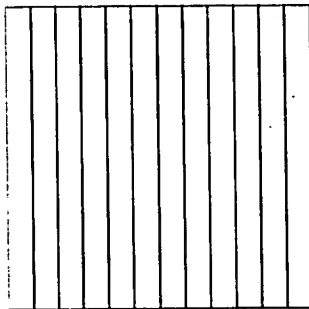


Figure 5b



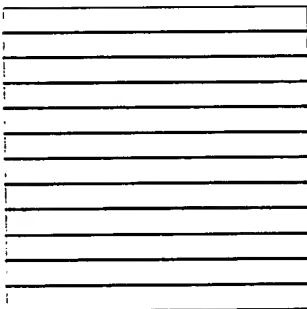
Layer 3

Horizontal



Layer 2

Vertical

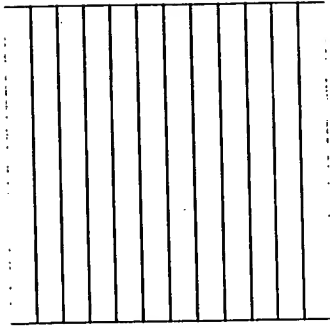


Layer 1

Horizontal

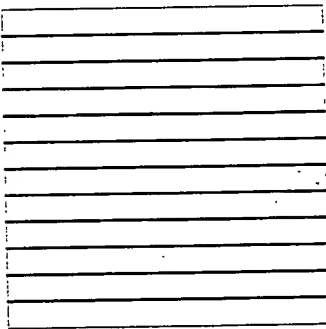
Figure 6a

20110"0534001



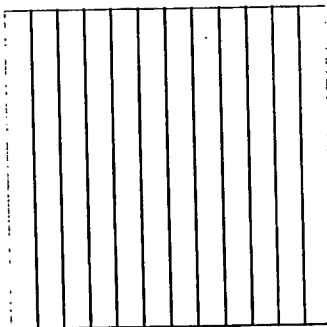
Layer 3

Vertical



Layer 2

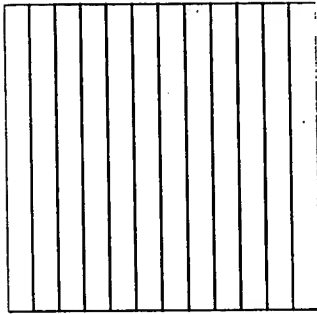
Horizontal



Layer 1

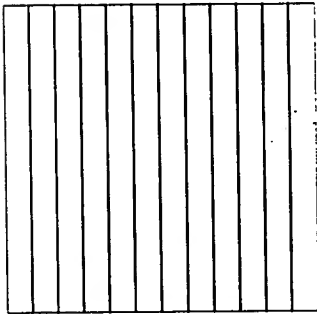
Vertical

Figure 6b



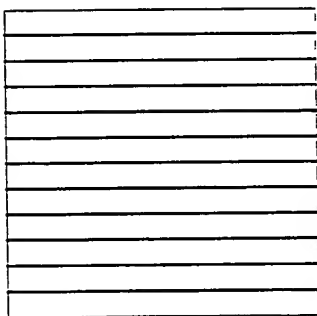
Layer 3

Vertical



Layer 2

Vertical

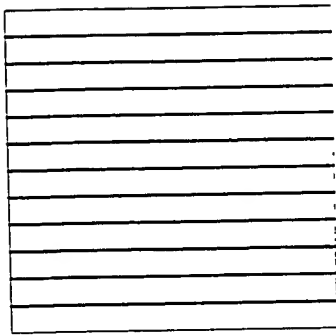


Layer 1

Horizontal

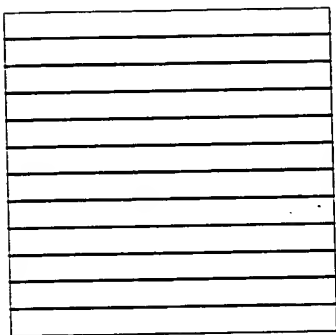
Figure 6c

20110101 01:10:00



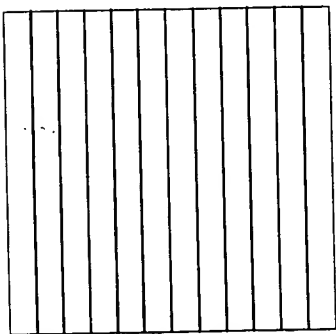
Layer 3

Horizontal



Layer 2

Horizontal



Layer 1

Vertical

Figure 6d

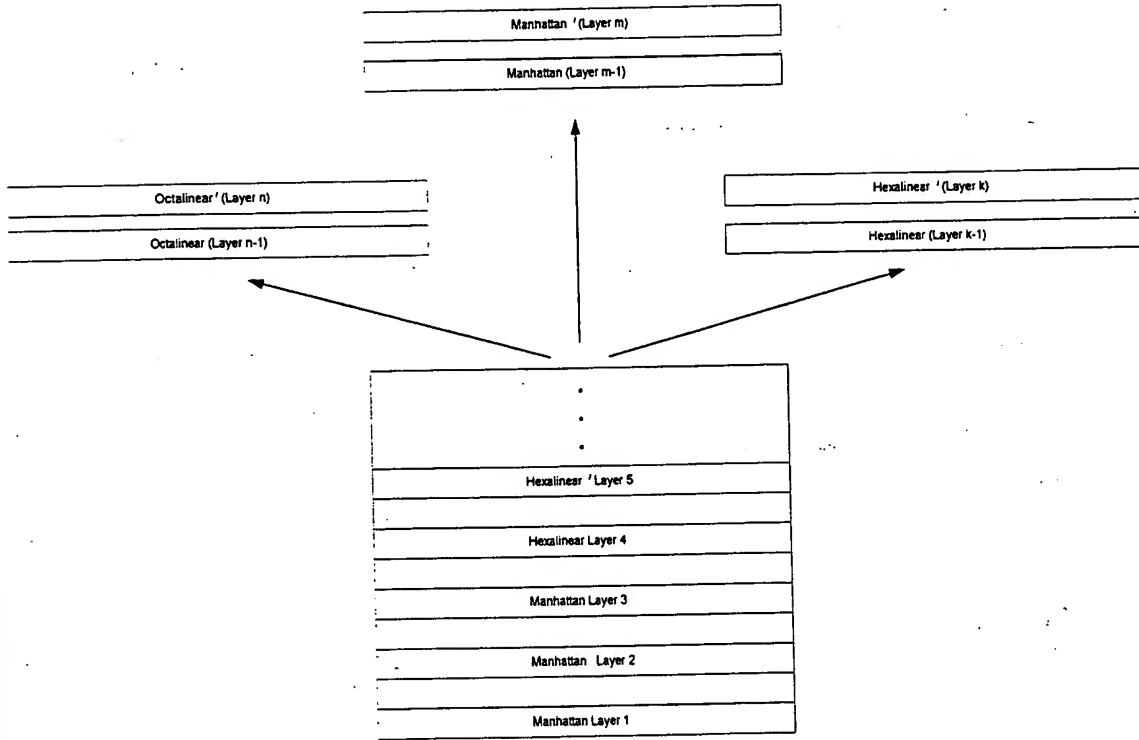


Figure 7

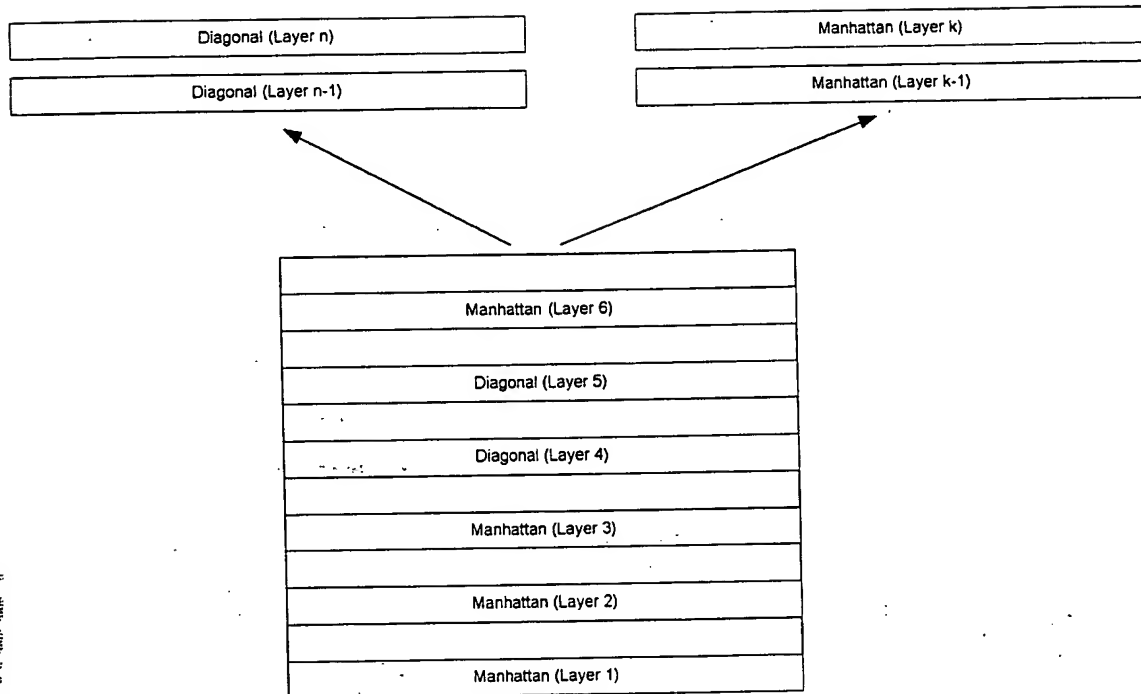


Figure 8

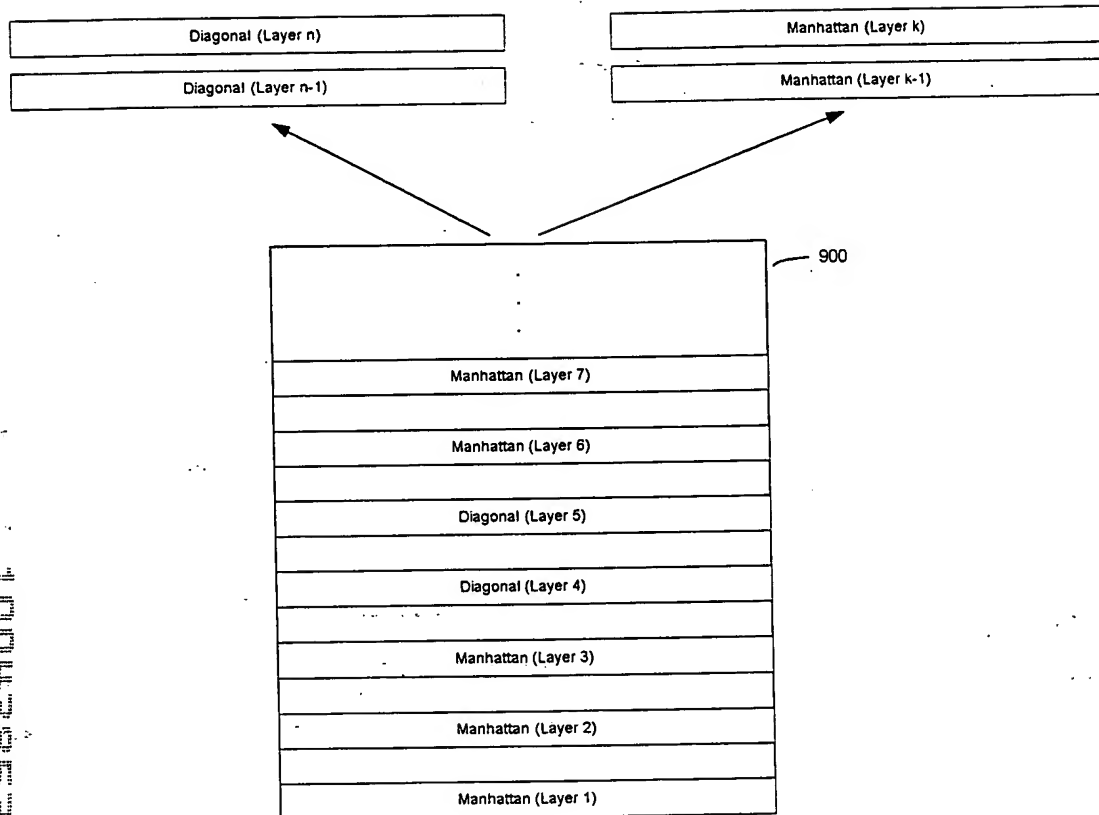


Figure 9

IC (Top View)

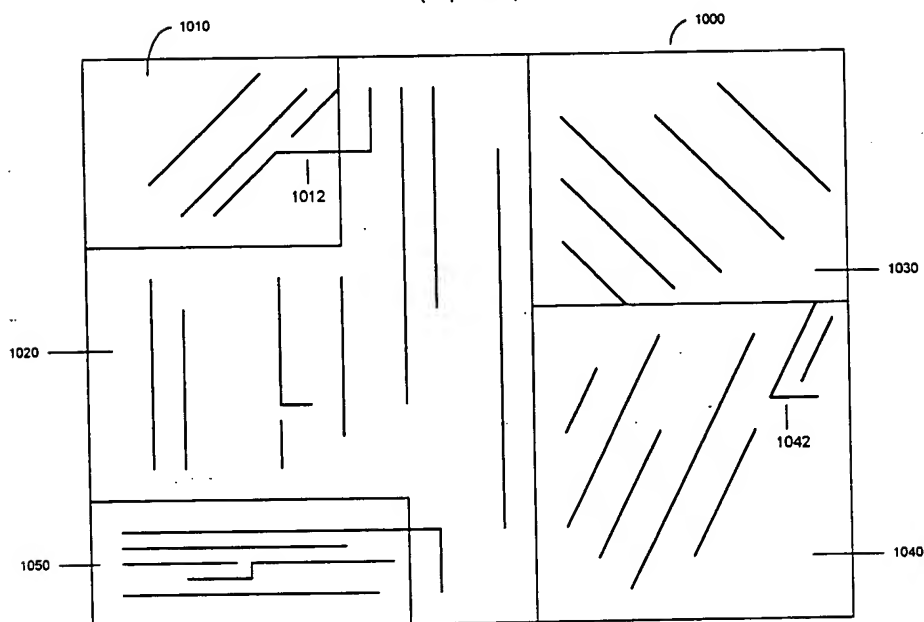


Figure 10

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IC (Top View)

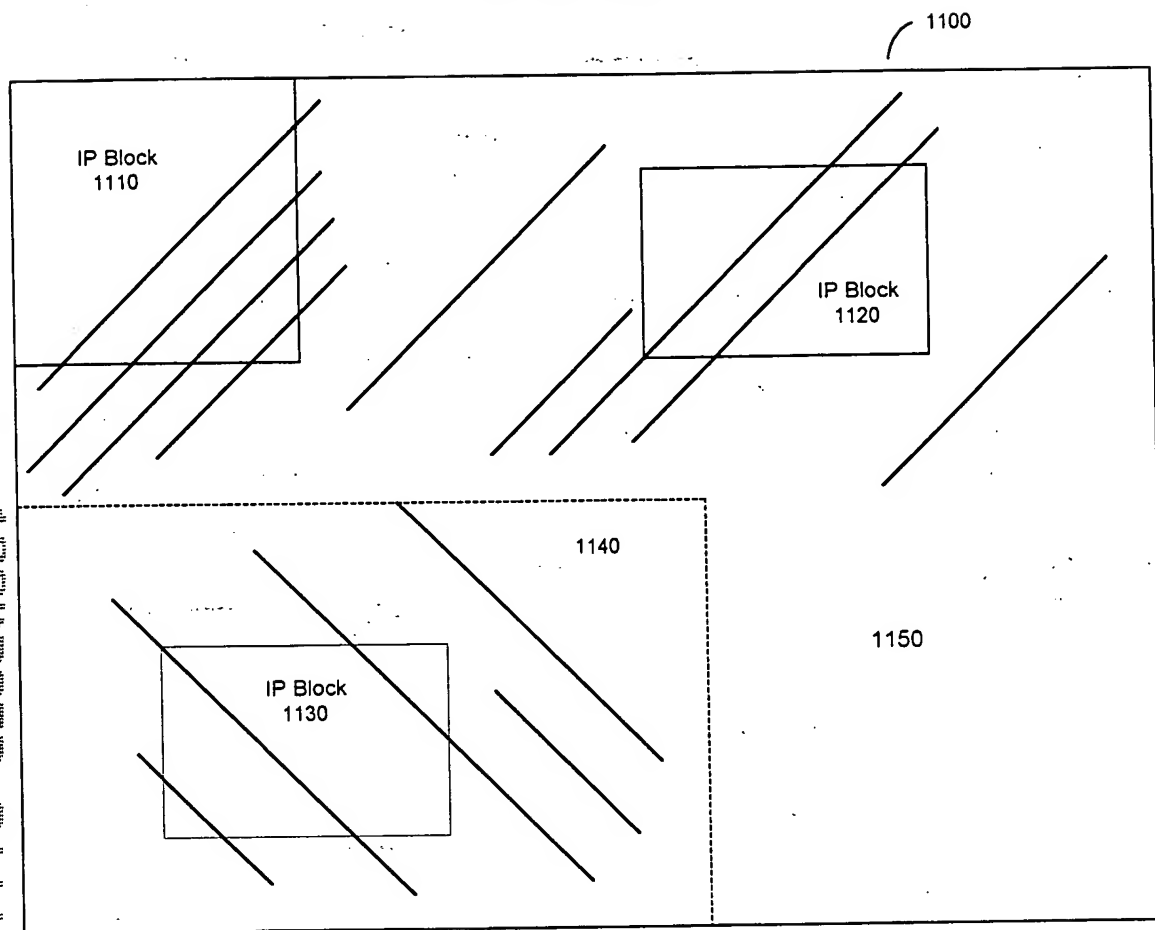


Figure 11

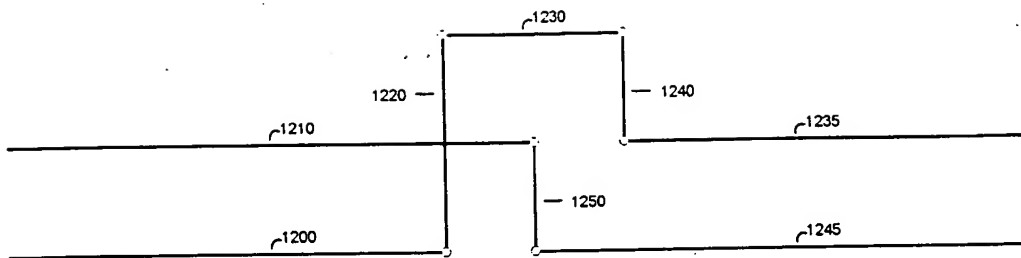


Figure 12a

Prior Art

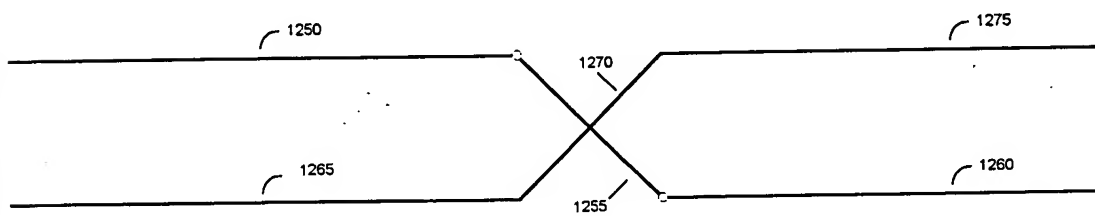


Figure 12b

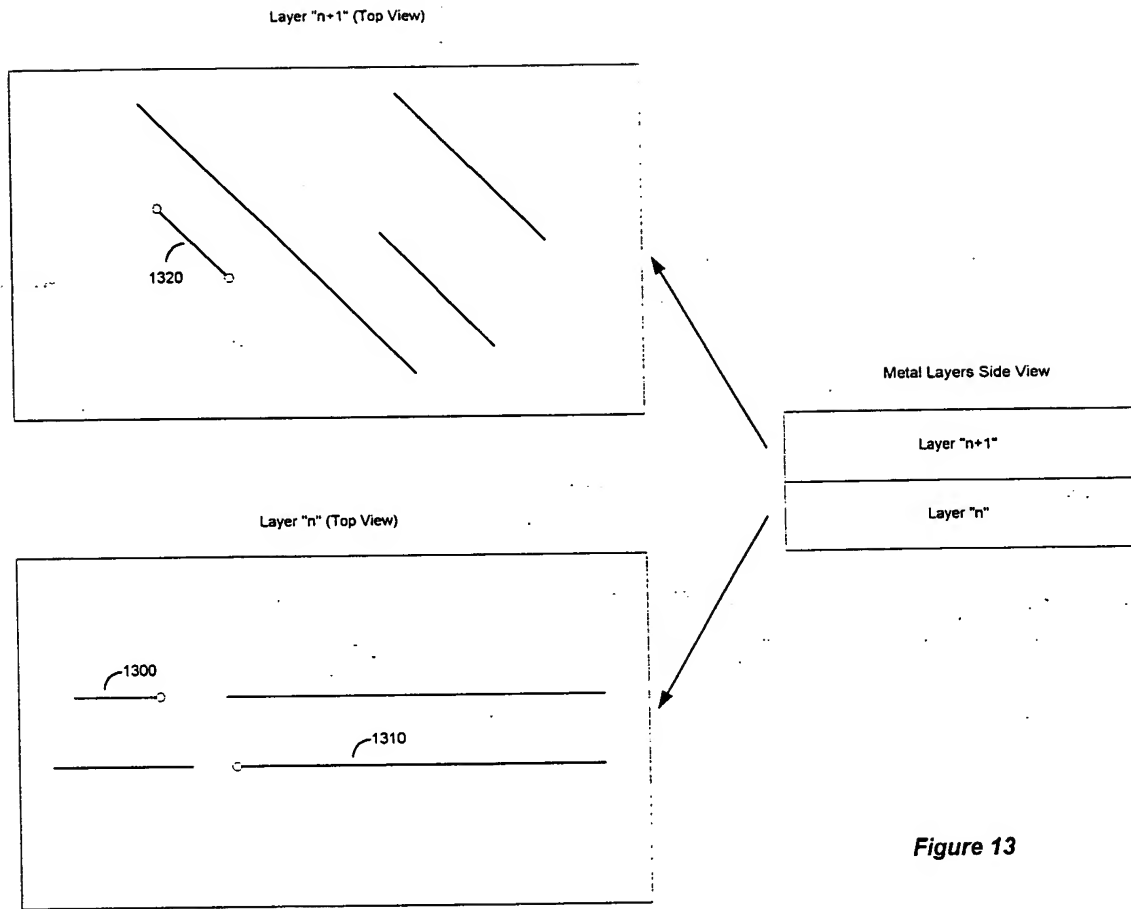
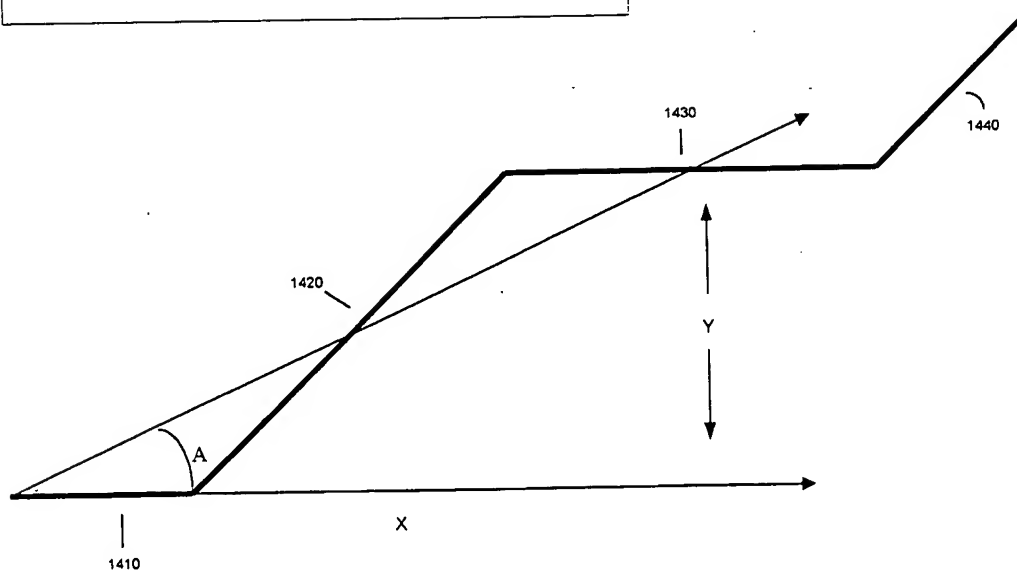
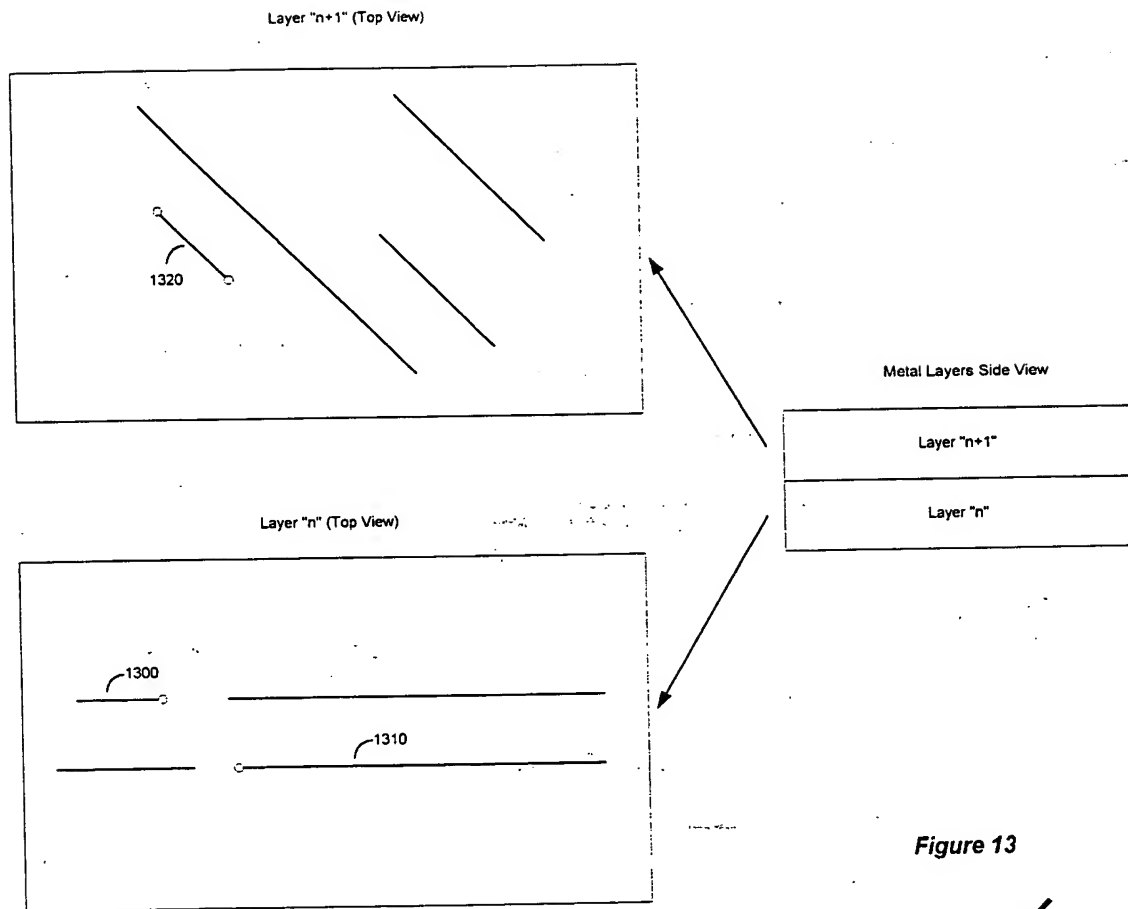


Figure 13

2017-01-04 10:53:40



IC (Top View)

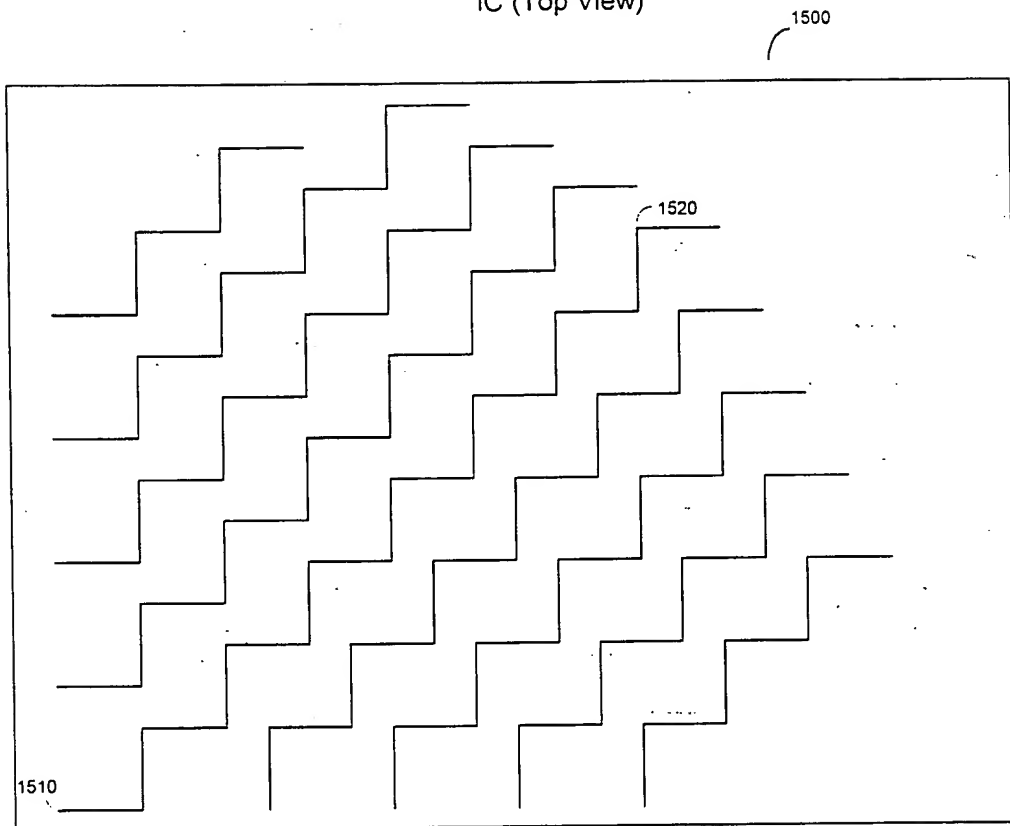


Figure 15

IC (Top View)

1600

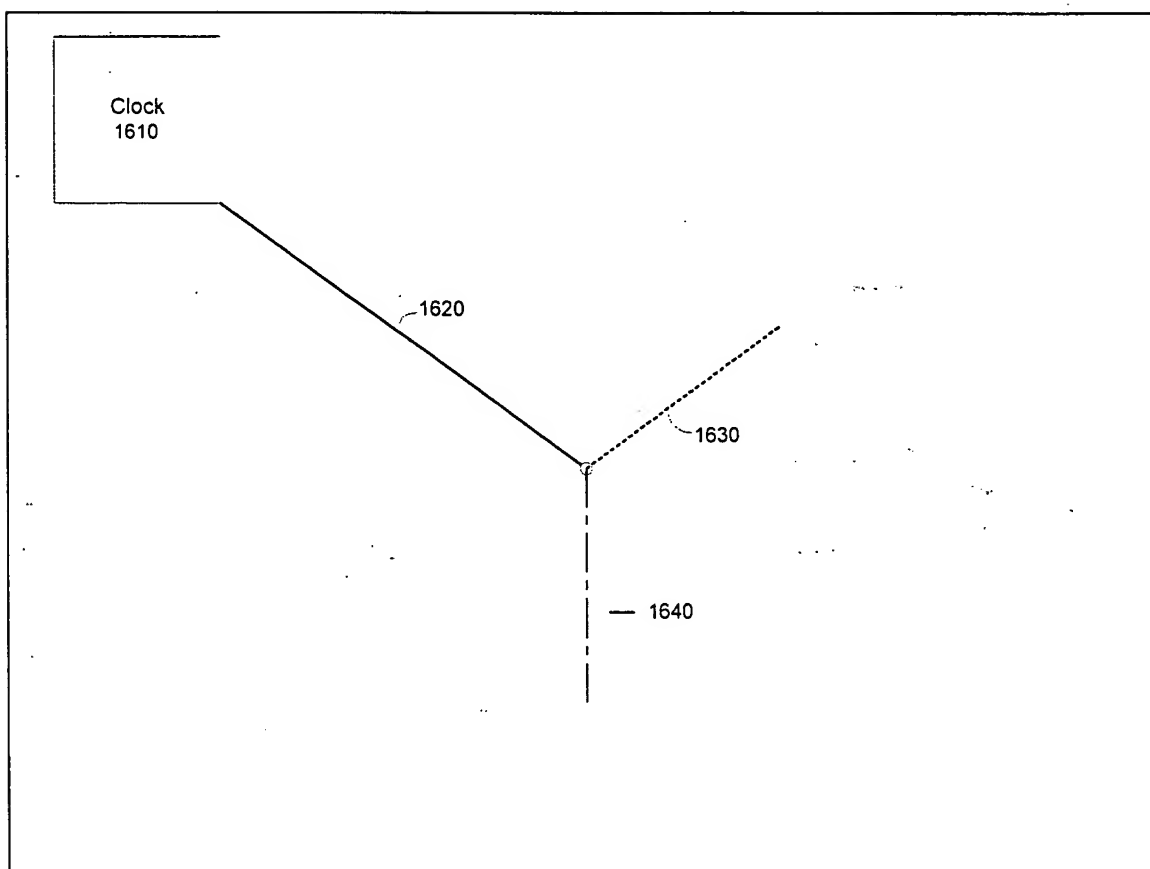


Figure 16

1004385 0110 E98E400F